

**STRATEGY  
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**U.S. GLOBAL LEADERSHIP:  
THE U.S. ROLE IN RESOLVING  
MIDDLE EAST WATER ISSUES**

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## ABSTRACT

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The Middle East has an ever-increasing regional water shortage with a clear trend toward catastrophic results within the next decade. Resolution of this severe problem is beyond the capability of any one country. Clearly, a regional approach is required. The Arab-Israeli Peace Process has assisted communication between long-term adversaries in the region. The United States, with its "Pax Americana" status in the Middle East, has never been in a better position to help avoid potential war over the looming water shortage. This study project details the regional water problems, the international legal framework governing riparian countries, potential technical solutions, and the impact of the Arab-Israeli Peace Process. It concludes with a recommended solution that places the U.S. in a leadership role.

## INTRODUCTION

Water shortage is reaching the crisis stage in the Middle East. In 1991 Egypt's Deputy Prime Minister, now United Nations Secretary General Boutros Boutros-Ghali observed: "The next war in the Middle East will be over water, not politics."<sup>1</sup> Israel, Jordan, Syria, the West Bank, Gaza and Egypt are already rationing water. By the year 2000 Euphrates River water available to Iraq will be reduced to 80% of today's supply.<sup>2</sup> Israel, Jordan and Syria, all former adversaries, share common sources of water. These countries will exceed their level of replenishable water supply in the next five years. The Middle East population will double in 25 years.<sup>3</sup> Water quality is deteriorating rapidly; solutions to this issue are now beyond the reach of any one country. As water becomes even more scarce, the likelihood of regional conflict dramatically increases in a region that is already volatile. This critical situation could jeopardize U.S. partnerships in the region; it could trigger use of weapons of mass destruction; it could unleash a massive influx of refugees into Europe and the U.S. That is, it could precipitate a global crisis. Clearly, political and technical leadership is needed.

This paper argues that the United States should use its global leadership and regional influence to avert Middle East conflict over water. Regional solutions implemented today will promote peace and stability in the Twenty-First Century. Fair and equitable leadership will enhance the Arab-Israeli Peace Process and improve the

reputation of the U.S. in the eyes of the Arab world, which for some time has accused the U.S. of favoring Israel.

The paper will also address regional water problems and international legal issues. It will suggest technical solutions and recommend a U.S. role on this issue. Though each country has its own internal water problems, this analysis focuses on regional issues affecting several countries served by the three major river basins in the Middle East (Jordan, Euphrates and Nile). In fact, in this paper the Middle East is defined as countries adjacent to or affected by the river basins of the Jordan, Euphrates/Tigris, and the Nile.

### **REGIONAL WATER PROBLEMS**

Aside from other issues, the scarcity of basic resources has been a central Middle East problem for centuries. Today's Middle Easterners are the sons and daughters of ancestors with a sensitivity and jealousy toward any loss of their rights to scarce resources. This penchant for protection of resources at all costs is exemplified in the history and lore of the legendary "War of Basoos." In ancient times, so goes the story, two tribes had existed in peace. They shared a single well. Each tribe had access to the well from their side of the common trough. One day a camel from one of these tribes wandered across the boundary and drank from the wrong side of the trough. The camel was killed by a trespasser. This ignited a war which lasted several generations; it cost countless lives on both sides. When the fighting ended, no one remembered that Basoos, the cause of the strife, was an errant camel.<sup>4</sup> Thus the

region's legendary past reveals peoples wholly disinclined to tolerate any perceived violation of their rights to scarce resources - a people prepared to respond quickly, arbitrarily, and violently to a perceived unlawful taking of such resources - even if the taker is a dumb, thirsty animal.

But recent water shortages have surpassed the abilities of individual countries to manage their internal water problems. In one lifetime the Middle East annual per capita of water will have fallen by 80% from 3430 cubic meters in 1960 to a projected 667 cubic meters in 2025.<sup>5</sup> Current projections suggest the annual Middle East water requirements are likely to reach 1,120 million cubic meters (MCM) in the year 2000 and about 1,230 MCM by year 2005. The maximum potential annual supply of water from all water sources (including unconventional means such as recycled water and judicious withdrawal of water from fossil aquifers) is estimated at only 1,100 MCM. Hence, Middle East requirements are estimated to exceed supplies well before 2000.<sup>6</sup>

Deteriorating water quality is likewise becoming an increasingly serious issue. It is caused by overpopulation, low river flows, seawater intrusion into dangerously low and overused coastal aquifers, agricultural runoffs, and uncontrolled effluent from industry. Water quality tends to decline exponentially to the demand on its source.<sup>7</sup> Typical examples of this deteriorating quality are the Orontes River, which flows into Syria from Lebanon, and the coastal aquifers of the Gaza Strip. Increasing population density and high water use along the Orontes River has caused low water levels, resulting in dangerously high sewage levels, which causes the spread of water-borne diseases such as cholera and typhus - thereby making downstream water unfit for drinking.<sup>8</sup> The 750,000 Gaza Strip inhabitants use 120 MCM of its adjacent coastal

aquifer despite its 65 MCM sustainable annual supply. The predictable result is a lowering of the water table and severe intrusion of seawater into the aquifer.<sup>9</sup>

The high seasonal variability of rainfall throughout the region makes availability of water erratic. Annual precipitation varies from negligible amounts in desert areas to more than 1500 millimeters in mountainous regions. Most of that rainfall occurs in the winter, which presents a significant storage problem. Extensive storage capacity is required to maintain water from the rainy season through the dry season. Evaporation of water during the hot, dry season severely reduces the overall availability of the gross annual rainfall.

Non-renewable water resources, such as fossil aquifers, are now being mined. The Nubia aquifer, extending from Libya to the Arabian Peninsula, is being mined by several countries, but they share no agreements on extraction limits. Although this aquifer can provide water into the next century, the source is very vulnerable to saline contamination because of improper mining. Many fossil aquifers interact with river flows and directly affect the quality of the eventual surface supplies of these rivers.<sup>10</sup>

The Middle East is showing traits of desertification. Severe droughts, coupled with extensive land degradation over time, have produced semi-arid regions resembling deserts. It is unrealistic to expect the culturally and religiously-steeped Middle East population to be easily displaced from their homeland. Even so, time-honored and primitive agricultural techniques have overtilled and overgrazed the land, with exhausting effects.<sup>11</sup> The wheat and rice producing region of northeastern Iraq is the next vulnerable area to overtilling: As the Euphrates River flow decreases, the land quality will decline. Yet the farming continues.

Only Lebanon and Turkey are maintaining an internal balance between renewable water resources and water consumption. Israel is consuming more than 105% of its renewal water source. Jordan's 125% consumption rate is the highest in the region.<sup>12</sup>

Agriculture is the largest user of water in the region. Poor crop selection, a cultural desire to achieve food self-sufficiency, and poor irrigation techniques are currently drawing over 80% of the regions' water supply. Reducing water for irrigation offers the greatest possibility of resolving the short term water shortage in the region. Various proposals seek to reduce water demand by shifting the economic infrastructure from agricultural to industrial and service-based economies. However, there is not yet an industrial or service-based economic infrastructure poised to replace the former sector.<sup>13</sup>

Governments are making the regional water problems worse, since they have been unable to develop a consistent, efficient long term approach to water management. When countries are beset by a water problem, especially in the absence of international agreements, armed conflict can occur. A recent example is the 1967 Arab-Israeli War, during which Israel occupied the Golan Heights to prevent the Syrians from diverting the headwaters of the Jordan River.<sup>14</sup> Syria sought to eliminate Israel as a state by cutting off her water supply.<sup>15</sup>

### **Jordan River Basin**

The most serious water problem area in the Middle East is the Jordan River basin. It presents the greatest potential for political and military conflict. The source of the conflict parallels the course of the river itself.<sup>16</sup> The Jordan borders Israel and

its long-time adversaries Syria, Lebanon, and Jordan. Water issues remain a primary concern in the Arab-Israeli Peace Process, because riparian countries are not cooperative.

Israeli water policies in the West Bank have increased tensions in an area that needs answers, not more problems. Specifically, Israeli settlers are allowed to dig deeper wells, giving them access to plentiful aquifers under the West Bank. Palestinian settlers are restricted from digging new deeper wells. Thus Israeli settlers receive three times as much water per person when compared to the Palestinian settlers. Furthermore, over 30% of Israeli water originates from the aquifers under the West Bank.<sup>17</sup> A lasting peace between the Palestinians and Israelis must resolve these issues of water rights.

The Gaza Strip water shortage problems are acute. Gaza Strip aquifers provide minimally acceptable water; its quality continues to worsen as salt water infiltrates the coastal aquifers. Meanwhile, the population continues to increase at a rate that exceeds 3% annually. Political considerations are the chief obstacles to resolving the Gaza Strip problem. Technically, the Gaza Strip can be connected to the Israeli National Water Carrier, then Israel can be reimbursed with unused waters of the Litani River. However, the Gaza Strip population is not confident that the Israelis will supply uninterrupted water. And Lebanon has no desire to provide water to the Israelis, even though it would eventually help their fellow Arabs in the Gaza Strip.

Israel has often explored ways to gain access to the Litani River. It is one of the few rivers in the region with excess water capacity. Despite Israeli attempts to justify access to the Litani River, Lebanon has thus far avoided sharing the Litani

waters with any other country. International legal precedence is clearly on the side of Lebanon, since the River originates in Lebanon and remains within its borders.<sup>18</sup>

The current Syrian leadership staunchly supports Syria's right to border the Sea of Galilee and thus enjoy access to its waters. Syrian access to these waters is one of the critical issues of the Arab-Israeli Peace Process. Concerned that Turkey will reduce her access to the Euphrates River, Syria has been reluctant to enter into regional sharing of any water source it can claim as its own. In the late 1970's the U.S. tried to broker an agreement to dam the winter excess flow of the Yarmouk River. The proposal called for construction of a Yarmouk River dam that would hold water for Syria (the upstream country), Jordan, and Israel (the downstream country). Despite U.S. funding of the project, Syria rejected the proposal. Instead, Syria built several small dams on upper tributaries to the Yarmouk River. Israel continues to draw from the downstream waters, while Jordanian agriculture suffers from no means to capture water. Jordan and Syria have finally agreed to build the dam on the Yarmouk River. It will be called the Unity Dam.<sup>19</sup>

Jordan currently suffers from severe water shortages. By the turn of the century she will not have enough water for domestic and industrial use, much less agricultural use. The Unity Dam will help Jordan conserve water during the dry season. If Jordan uses the maximum available water, Israel will most likely receive less water in the future.<sup>20</sup>

Any diversion of the Jordan River waters that adversely affects the water flow has significant religious implications for the religions of Christianity and Islam. On January 11, 1964, Athenagoras, Orthodox Ecumenical Patriarch, after his historical

meeting with Pope Paul VI, summed these religious concerns:

"Diversion of the Jordan River waters will be a source of grief and sorrow throughout the world. Orthodox Christians are gravely concerned over the diversion question and want the river in which Christ was baptized to continue its flow."<sup>21</sup>

Ironically, all places Holy to Christians are for that same reason Holy to Muslims due to the special relationship between Islam and Christianity.<sup>22</sup>

### **Tigris/Euphrates Basin**

Turkey is the dominant force in this basin. Turkey is carrying out the Greater Anatolia Project (GAP), which consists of twenty dams that will open 1.6 million hectares of land to irrigated cultivation and additional hydroelectric power. But, the downstream effects are devastating to Syria and Iraq. The Euphrates River is Syria's main source of water for drinking, irrigation, and industry. Any reduction of this water supply will have a dramatic effect on the country's infrastructure. Syria's population growth rate of 3.7% is one of the highest in the region. At this current rate Syria will be in drought conditions by year 2000 even without GAP. To date, Syria and Iraq have managed political solutions to short term Turkish reductions in water flow. The concern, however, is that Syrian needs will increase as the water flow decreases.

Due to the GAP, the Euphrates flow rate into Iraq will be reduced to 20 % of its current flow rate by year 2000. In addition, the quality of the remaining Euphrates water will be poor, since the water salinity will increase as the water flow decreases.<sup>23</sup> Iraq still has unconstrained access to the Tigris River. Although the Tigris provides

approximately two-thirds the present flow rate of the Euphrates, this is not enough water to sustain Iraq.

### **Nile River Basin**

The Nile River basin is in better overall condition than the Jordan and Euphrates Rivers. Egypt is the dominant force in this basin. Clearly stating his country's intent concerning water, the late Egyptian President Anwar Sadat declared in 1979, "The only matter that could take Egypt to war again is water."<sup>24</sup> President Sadat's concerns focused on the upstream countries' plans for greater use of the Nile, even though Egypt is totally dependent on the Nile River as its only source of fresh water.<sup>25</sup> Although initiatives upstream remains a regional concern, it appears Egyptian needs will continue to be met.

### **RIPARIAN LEGAL ISSUES**

An international legal framework is in place for fair administration of scarce resources. In 1966 an international code was formulated by the International Law Association in a set of guidelines known as the Helsinki Rules for resolving water disputes. In 1991 the U.N.'s International Law Commission drafted a proposed law of Non-Navigational Uses of International Watercourses. The World Bank and other non-governmental organizations (NGO) look to these rules in assessing new water projects involving more than one country. Both sets of rules attempt to provide proper allocation and fair use of water between countries that share the same water. Provisions include upstream, downstream, and autonomous river rights. In general,

they apply the common sense approach.<sup>26</sup>

However, longstanding rivalries among countries and complex multi-faceted water controversies have made the application of existing international law in the region difficult. Of the 286 international water treaties throughout the world, only one exists in the Middle East. It is an agreement on the Nile between Egypt and Sudan.<sup>27</sup>

Several Middle East countries have taken contradictory legal positions on riparian issues.<sup>28</sup> No country better illustrates the problems with riparian legalities than Syria. By exploiting the headwaters of the Yarmouk and Orontes, Syria has assumed the role of the upstream right of sovereignty over water that originates in its territory. Syria firmly believes it holds the legal "high ground" against Israeli downstream claims. Conversely, Syria denies upstream right of sovereignty to Turkey over the Euphrates and Tigris.<sup>29</sup>

The contention between the Palestinians and the Israelis regarding the West Bank aquifers is based on two contrasting international legal principles: sovereignty over the water source (Palestinian claim) versus the right of prior use and natural flow of the source (Israeli claim). These contradictory legal principles add to the challenging mission of countries involved in the Arab-Israeli Peace Process.

## **TECHNICAL SOLUTIONS**

Despite the volatile political environment in the Middle East, there are promising technical solutions to the water shortage problem. No single solution is all encompassing. But, a combination of these can provide short and long term relief to a

region in need. These technical solutions fall into two major categories: increasing water supply and reducing demand for water.

### **Increasing Water Supply**

Perhaps the most promising means to increase water supply is desalination.<sup>30</sup> A very old method taught by Aristotle, desalination works best when it converts brackish water, rather than salt water.<sup>31</sup> Desalination is easier to manage than other alternatives because it requires no international cooperation. Availability of convertible water is plentiful and reliable within the borders of all affected states in the region. Presently, desalination is expensive due to the high energy costs to convert brackish and sea water to relatively high quality water.

Recently the U.S. committed \$3 million to establish a Middle East Desalination Research site in the Sultanate of Oman. This commitment recognizes the need to explore the potential of desalination to help alleviate water shortages in the Middle East. In the 1980's desalination was expected to expand beyond the borders of the energy rich Arabian Gulf states that were already operating desalination plants.<sup>32</sup> Many experts believed that nuclear energy would be cheap and available to most countries throughout the Middle East. However, nuclear energy sources did not materialize. Today, the only countries with large desalination plants are still the countries with excessive energy capacity (Saudi Arabia, Kuwait and other Gulf States).<sup>33</sup>

There is historical precedent for countries in conflict to share scarce resources, including water. Examples include the water pipeline that supplies Hong Kong with half its annual need from China. The quantity is expected to increase in the future.

Singapore purchases most of its water from the Malaysian state of Johore. The arrangement is based on a 1962 agreement, made before Singapore seceded from the Malaysian Federation in 1965. India and Pakistan have mutually supporting agreements concerning the rivers that flow from the highlands of the Tibetan Plateau.<sup>34</sup> Obviously, then, enemies past and present can agree on sharing vital resources.

Water imports have dominated the initiatives in recent years. One of the most popular proposed initiatives is the still unbuilt "Peace Pipeline." In February 1987, Turkish Prime Minister Turgut Ozal proposed building a water pipeline from Turkey to all parts of the Middle East. The pipeline would supplement already existing water supplies in the region. The water sources would be the Sehyan and Ceyhan rivers that are now emptying between 16 and 39 MCM per day into the Mediterranean Sea . Although Israel and the West Bank were excluded from the plan in 1992 due to pressure from Syria, the plan still offers critical water to the region. The pipeline would provide water to the countries adjacent to the eastern and western shores of the Arabian peninsula. At the estimated cost of \$8.5 billion, it would provide water through Amman, Aleppo, Hama, Homs and Damascus. For another billion dollars, the pipeline could extend to Israel's National Water Carrier and another carrier supplying water to the Palestinians. Given recent favorable developments in the Peace Process, this plan could be realized. Turkey would sell the water at approximately \$.84/cubic meter. This compares favorably with current desalination cost estimates of \$1.0/cubic meter.

There are several reasons why the pipeline is an attractive proposal. Despite high initial construction costs, long term costs per cubic meter are considerably lower.

The project provides employment for over ten years. The pipeline, traversing several tense borders, increases security because it crosses these same borders. Unlike importing water from overseas, the pipeline affects several countries simultaneously. Therein lies the strength. Turkey cannot shut off the water to Syria without affecting Jordan, the Palestinians, or even Israel. With Saudi Arabia (maybe Mecca) at the end of the pipeline, the threat would be even further reduced.

Yet the Peace Pipeline has raised many naysayers. The Turkish political leaders removed the proposal from serious consideration due to internal pressures. External construction funds are required. The U.S. and the European community will be called upon for capital. Some experts estimate it is cheaper to build desalination plants than to spend the \$8.5 billion needed for pipeline construction. The main obstacle to construction of the pipeline is trust. There is still considerable fear that one country will prevent the flow of downstream pipeline water due to political considerations. However, investment by the world community and the prospect of cutting off water to downstream allies reduces the likelihood that the pipeline could be used as a "weapon" or instrument of international blackmail.

Importing water from other countries via various containers has been considered. Ideas range from "medusa bags" (large plastic bags carrying water pulled by tug boats) to transporting icebergs from the polar cap and constructing underground pipelines to islands off Croatia. All have been studied with mixed results.<sup>35</sup>

One of the most promising water ideas is diversion of Litani River water into the Jordan River basin. The idea involves catching the excess water near the river's outlet to the sea, after its upstream energy potential has been used. The water could

then be piped to the coastal aquifers or to the fields for direct irrigation. Through an agreement, the amount of water received by Israel would require it to give up the commensurate amount to the Palestinians on the West Bank or the Gaza Strip. The feasibility would be based on compensation to Lebanon. Just as important as money is the achievement of political stability between Israel and Lebanon.

### **Reducing Demand for Water**

Reducing present demand for water shows great promise. There are many direct and indirect ways to reduce demand for water. Direct management of demand includes making irrigation more efficient, rationing water, regulating water availability, modernizing irrigation networks, locating new industry in minimal impact areas, creating new efficient storage and diversion projects, and reducing water loss due to outdated storage facilities.

Since agriculture in most countries in the region accounts for over 80% of the total water usage, tremendous opportunities exist in this area for water savings. Using better irrigation techniques could lead to enhanced food production, while avoiding environmental damage as well. Surface flooding of water basins is still the most popular method of irrigation, though it can lead to wasteful water-logging of the soil.

Improved irrigation techniques offer more potential for saving water than any singular action a country can undertake. The Israeli farmers have provided strong leadership in this area. Drip irrigation is a modern method of high frequency low level irrigation; it allows water to be dripped directly into the root zone. This is a highly efficient use of water.<sup>36</sup> Surface flooding has an efficiency rate of 50%. Sprinkler irrigation improves efficiency to 70%. But drip irrigation reaches 90%

efficiency. Changing to less water-intensive crops helps, also.

Rationing water is the most direct tool a country can use to reduce demand for water. Though rationing is seldom all inclusive, it "brutally" provides the desired outcome of reducing water demand. Rationing is particularly effective in the agriculture sector. Most effective are those policies that progressively charge for water in increasing proportion to the amount used.

The most significant indirect method to reduce agricultural water demand is charging farmers for use of water on their farm. Historically, irrigation water has been free. Though not practiced much globally, charging farmers for water could work well in reducing the demand for irrigation waters.

### **Population Control**

After irrigation, the next biggest challenge in the region is control of population growth. The current rate is almost out of control. The population of the poorest and most arid Middle East countries is increasing faster than the rising global average. The growth rate in most Middle East countries is over 3% per year. This rate will double the population of each succeeding generation.<sup>37</sup> The implications of such rapid growth are profound and extend beyond the scope of this paper. The demand for water, however, will surely increase with corresponding stress on the agricultural and industrial infrastructure.

### **Arab-Israeli Peace Process**

Thus far, we have considered technical solutions to the Middle East water problem, with only passing mention of political processes. Political realities certainly have a tremendous impact on the outcome of any issue. Such is the case with the

Arab-Israeli Peace Process that began in October 1991 in Madrid, Spain. This process is providing valuable lessons. The current success of the process is reinforcing the belief that cooperation is more efficient than conflict. Efforts along these lines are underway. One clear example is that Egypt, Israel, and Jordan are now linked to a common electrical grid.<sup>38</sup> This recent development was not imaginable just a few years ago. Cooperation is likewise the cornerstone to any agreements over water in the future.

Water is such an important part of the international relationships in the Middle East that it has become an issue of the ongoing peace talks. There are two avenues to these talks, the bilateral talks and the multilateral talks. The major water issues of the bilateral talks seek to define and secure appropriate shares of water rights. Significant progress occurred on October 17, 1994, when Israel and Jordan agreed on a draft treaty that shares water resources, settles border disputes, and ensures the security of both.

The multilateral working groups of the Peace Process focus on broad regional issues. Among the five separate working groups in the multilateral talks, one focuses on water issues. This multilateral working group on water is discussing ways to alleviate short-term and long-term water shortages, means to increase overall water supplies, and improvements in data-sharing, conflict resolution, and river basin management. Several rounds of negotiations have been held in Vienna, Washington, D.C., Geneva, Beijing, and Muscat. Two significant events have resulted from the multilateral talks: cooperation on a series of formal and informal "activities" in search of water solutions and the joint agreement by Oman and the U.S. to fund the

desalination research center in Oman. The group has met informally in the U.S., Zurich, and Stockholm. These informal activities have become an unofficial forum for proposing new ideas and forming relationships among strained country teams.<sup>39</sup>

### **U.S. POSITION - PAST, PRESENT AND FUTURE**

The U.S. is no stranger to the search for water in the Middle East. In 1944 Dr. Walter Clay Lowdermilk, an eminent agricultural engineer and hydrologist serving as deputy chief of the U.S. Soil Conservation Service, conceived a bold plan for water and energy development for Israel and the Jordan Valley. It called for a Jordan Valley Authority, comparable to the Tennessee Valley Authority in the U.S. His plan would divert the waters of the Yarmouk to irrigate the floor of the Jordan Valley. Simultaneously, upper Jordan River waters would be diverted to irrigate the Jezreel Valley, lands on the Israeli coastal plain, and the northern Negev. Seawater from the Mediterranean would be transferred into the Jordan Valley to generate electricity and compensate for diverted waters of the Yarmouk and Jordan rivers.<sup>40</sup> Though never fully implemented, Lowdermilk's concept inspired Israeli engineers to transfer water out of the Jordan River basin by way of a National Water Carrier to the coastal plains.

In 1953 U.S. Secretary John Foster Dulles visited the Middle East and returned with a deep appreciation of the strategic importance of the region. In a 1 June 1953 memo he stressed its "great strategic importance as the bridge between Europe, Asia and Africa, its significant oil reserves, and the source of three great religions-Judaism, Islam and Christianity". He also noted numerous countries with a critical need of

water for irrigation.<sup>41</sup>

Secretary Dulles convinced President Eisenhower to appoint Eric Johnston as a special ambassador to the region with the purpose of negotiating a Jordan basin water development. Staying away from the political spotlight, Johnston surrounded himself with technical personnel and authored a non-political agreement that would provide the maximum amount of water for the entire region. Despite tense Arab-Israeli relations in 1954, Johnston submitted his final plan, then called the Unified Plan. It was a compromise plan based on differing proposals from Jordan, Lebanon, Israel and Syria. It was based on a recommended formula for equitable division of the waters. Its one glaring technical weakness was its exclusion of groundwater in the computation of total water availability.<sup>42</sup>

The Johnston Plan was not formally accepted by the Arab states, since it would benefit Israel. However, the plan succeeded de facto in gaining acceptance of the principle of regional water allocation by the countries in the region. Years later, Arab states submitted claims to the international community that Israel was violating water allocation agreements stipulated in the Johnston Plan that their political leaders had once rejected. Today, Jordan and Israel still accept the principles and allocations of the Johnston Plan. Such tacit acceptance has allowed each country to develop their lands based on known water values.<sup>43</sup>

We should learn from these past efforts. The first and most important lesson is that the U.S. was able to seize a leadership role in the Middle East despite Arab mistrust of the U.S. and the influence of communism in the region. The second lesson is U.S. credibility can be achieved and maintained when the U.S. is an honest,

impartial broker. Lastly, a proposal based on common sense has long-lasting value, even when it appears to have been rejected for political reasons. Good sense and honest judgement may eventually prevail over political passions.

### **Proposed Future Plan for Resolving Water Issues in the Middle East**

The U.S. has never been in a better position to help achieve a long-lasting regional water solution in the Middle East. As the only superpower, the U.S. carries considerable influence in the region. The U.S. credibility has improved greatly among the Arab states since the 1991 Gulf War. Its involvement in the Arab-Israeli Peace Process continues to increase Arab confidence that the U.S. truly desires a balanced and fair Middle East peace. "Pax Americana" reigns in the Middle East today.

The U.S. can and should take the lead in building a regional approach to solving water problems. The progress made in the working groups of the Arab-Israeli Peace Process offers an ideal departure point to develop a long-term and binding regional water plan.

How, then, should the U.S. proceed? The President would appoint an ambassador to assume an international role in formulating a regional plan to solve water issues. This plan would form a Middle East Water Authority (MEWA), far removed from political influence. A multilateral committee would be formed and chaired by a mutually agreed-upon individual. Legal interpretations would be based on guidelines laid out in the International Law Association's 1966 Helsinki Rules and the 1991 U.N.'s International Law Commission proposal of Non-Navigational Uses of

International Watercourses.

The MEWA would include all regional water issues and would focus on the three major river basins: Jordan, Tigris/Euphrates, and Nile River basins. The MEWA would seek to regionally maximize water supplies and decrease water demand. The MEWA would release a tentative plan and solicit opinions and possible counterproposals from all countries in the region. After receiving all proposals, a final MEWA plan would be presented for approval. The final plan would be a binding agreement, allowing for compromise input from all countries.

Funding for the MEWA recommendations would come from multiple sources. Affected Middle East countries, the U.S., the World Bank, and other NGOs would be the primary "billpayers." Not all the U.S. contributions would be new funding requirements. A portion of the current U.S. aid provided to the Middle East would be redirected to meet MEWA initiatives.

The proposed MEWA plan is not a new concept. It is a logical follow-on to the Johnston Plan of 1954. The difference is the current dire need for a solution and the real possibility of a successful U.S. led regional solution.

The water crisis continues to worsen. The region, indeed the world, needs a solution. Without a solution, Israeli water commissioner Gideon Tsur predicts, "The likelihood of war over water is there. But after the war ends, there still won't be enough water to go around."<sup>44</sup> Now is the time for the U.S. to take the lead in solving what is truly a global problem.

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